

Remarks:

Claims 9, 10, and 12-19 are now pending in this application. Applicants have amended claim 9 to clarify the present invention. Applicants respectfully request favorable reconsideration of this application.

The Examiner rejected claim 9 under 35 U.S.C. § 112, first paragraph. In particular, the Examiner objected to the phrase "applying a suspension comprising glass material". The specification supports this phrase. For example, page 2, lines 9-11, describe that a "suspension of glass material and solvent (e.g. water) is then applied to the newly formed joint of particles." Clearly, the suspension includes more than the glass material. The suspension includes a solvent. The specification provides water as one example of a solvent. Accordingly, the specification supports the recitation of "applying a suspension comprising glass material". Therefore, claim 9 complies with 35 U.S.C. § 112, first paragraph. Consequently, Applicants respectfully request withdrawal of this rejection.

The Examiner rejected claims 9, 10, and 11-19 under 35 U.S.C. § 112, second paragraph, as indefinite. Applicants have amended claim 9 to clarify the claimed invention. Applicants submit that claims 9, 10, and 11-19 comply with 35 U.S.C. § 112, second paragraph. Accordingly, Applicants respectfully request withdrawal of this rejection.

The Examiner rejected claims 9 and 10 under 35 U.S.C. § 102(b) as being anticipated by WO 01/70128 to Nielsen. The Examiner rejected claimed 12-18 under 35 U.S.C. § 103(a) as

being unpatentable over Nielsen in view of WO 99/13795 to Salomonson.

Nielsen does not disclose the invention recited in amended independent claim 9 since, among other things, Nielsen does not disclose a method that includes prior to heat treatment step applying a premixed suspension including aluminum oxide particles to densely sintered high strength ceramic individual bridge parts, drying the suspension to form a joint of particles between the bridge parts, and applying a suspension including glass material to the joint of particles. Nielsen also does not disclose a method that includes carrying out a single step heat treatment after applying the suspension of particles, drying the suspension of particles and applying the suspension of glass material. Claim 9 clearly recites carrying out applying the suspension of particles, drying the suspension of particles and applying the suspension of glass material prior to heat treatment. Clearly, the invention recited in claim 9 includes a single heat treatment carried out after applying the suspension of particles, drying the suspension of particles and applying the suspension of glass material. On the other hand, as described in the specification at page 3, lines 11-13, the claimed invention provides advantages over known processes that include more than one heat treatment step.

On the other hand, Nielsen discloses a two step heat treatment. As described at page 2, line 34, through page 3, line 13, Nielsen discloses assembling a bridge frame, a first heating of the bridge frame, applying an infiltration to the bridge frame and a second heating of the bridge frame and infiltration. Clearly, Nielsen does not disclose a one step heat treatment. Additionally, Nielsen does not disclose carrying out applying a suspension including aluminum oxide particles to bridge parts, drying the suspension, and applying a suspension of glass material

to the layer of particles prior to a single step heat treatment.

Additionally, Nielsen does not disclose forming particle reinforced glass between the bridge parts wherein the particles are entirely surrounded by glass after the one step heat treatment. Nielsen discloses first sintering the binding agent including basic material. According to this process, the basic material will adhere to the parts. No glass will be formed between the parts and the basic material, as described at page 3 of the present specification. Nielsen discloses renewed heat treatment. On the other hand, the invention recited in claim 9 includes a one step heat treatment. Nielsen discloses applying an infiltration material to the sintered glass material and then carrying out a sintering operation.

With regard to the glass being on the surface of the sintered parts, the glass in Nielsen will be on the surface as well, since the first sintering step provides a porous network in which the glass infiltrate. However, no glass is formed on surfaces where sintering of the aluminium oxide and bridge parts have been effected.

The present specification describes the process disclosed by Nielsen at page 2, line 34, through page 3, line 13. Additionally, Nielsen describes the process at page 3, line 25, through page 4, line 31. The glass infiltration process in particular is described at page 4, lines 13-31.

From these passages of Nielsen it can be concluded that a first sintering is carried out between the aluminum oxide and the bridge parts, as described at page 3, lines 32-33, which states, "in which a sintering of the binding material is effected." Binding material refers to the

aluminum oxide with an adhesive, as described at page 3, lines 25-26, which states, "for formation of an initial binding." Since a sintering of the binding material and the bridge parts have been effected, a porous network is formed between the bridge parts. This is a first heat treatment. Thereafter, the glass infiltration can be effected, as described at page 4, lines 5-6. As described at page 4, lines 10-12, "the firing is concluded when the loosely sintered aluminum oxide has absorbed that amount of glass it can accommodate.

Furthermore, loosely sintered aluminum oxide refers to the porous network of aluminum oxide from the binding material, which is sintered to the bridge parts, that is, has formed a bond to the bridge parts. Hence, glass cannot penetrate between the aluminum oxide and the bridge parts sintered together, but between the aluminum oxide situated between the bridge parts. Space between the aluminum oxide is created by burning off the binding agent.

The glass infiltration process is described on page 4, lines 13-25. In this process, the glass does not have any blocking effect against emission of the gases which are released by the sintering. This sintering refers to a second sintering step, which is completed before the glass is brought to melt. The emission of gasses refers to burning off the binding agent for the adhesive in the binding material. When the binding agent has burned off, the channel network is created between the aluminum oxide, in which the glass can infiltrate by further heating.

In view of the above, Nielsen does not disclose all elements of the invention recited in claims 9 and 10. Since Nielsen does not disclose all elements of the invention recited in claims 9 and 10, the invention recited in claims 9 and 10, is not properly rejected under 35 U.S.C. § 102(b).

For an anticipation rejection under 35 U.S.C. § 102(b) no difference may exist between the claimed invention and the reference disclosure. *See Scripps Clinic and Research Foundation v. Genentech, Inc.*, 18 U.S.P.Q. 841 (C.A.F.C. 1984).

Along these lines, anticipation requires the disclosure, in a cited reference, of each and every recitation, as set forth in the claims. *See Hodosh v. Block Drug Co.*, 229 U.S.P.Q. 182 (Fed. Cir. 1986); *Titanium Metals Corp. v. Banner*, 227 U.S.P.Q. 773 (Fed. Cir. 1985); *Orthokinetics, Inc. v. Safety Travel Chairs, Inc.*, 1 U.S.P.Q.2d 1081 (Fed. Cir. 1986); and *Akzo N.V. v. U.S. International Trade Commissioner*, 1 U.S.P.Q.2d 1081 (Fed. Cir. 1986).

The combination of Nielsen and Salomonson does not disclose the invention recited in claims 12-18, since, among other things, the combination does not suggest a method that includes prior to heat treatment step applying a premixed suspension including aluminum oxide particles to densely sintered high strength ceramic individual bridge parts, drying the suspension to form a joint of particles between the bridge parts, and applying a suspension including glass material to the joint of particles. Additionally, the combination does not suggest a method that includes carrying out a single step heat treatment after applying the suspension of particles, drying the suspension of particles and applying the suspension of glass material. Salomonson et al. does not suggest applying a suspension of particles and drying the suspension. The dried particle network provides the bridge with a sufficient strength to permit the bridge to be transported to a heating device without requiring a support structure.

Additionally, Salomonson et al. does not suggest particle reinforced glass. The particle

reinforced glass of the present invention has a higher resistance to cracking than the pure glass material suggested by Salomonson et al. Furthermore, Salomonson et al. does not suggest a one step heat treatment.

In view of the above, the combination of Nielsen and Salomonson does not suggest the invention recited in claims 12-18. Accordingly, the invention recited in claims 12-18 is not obvious in view of the combination of Nielsen and Salomonson. Therefore, Applicants respectfully request withdrawal of this rejection.

In view of the above, the references relied upon in the office action, whether considered alone or in combination, do not disclose or suggest patentable features of the claimed invention. Therefore, the references relied upon in the office action, whether considered alone or in combination, do not anticipate the claimed invention or make the claimed invention obvious. Accordingly, Applicants respectfully request withdrawal of the rejections based upon the cited references.

In conclusion, Applicants respectfully request favorable reconsideration of this case and early issuance of the Notice of Allowance.

If an interview would advance the prosecution of this case, Applicants urge the Examiner to contact the undersigned at the telephone number listed below.

The undersigned authorizes the Commissioner to charge fee insufficiency and credit

overpayment associated with this communication to Deposit Account No. 22-0261.

Respectfully submitted,

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